Course Number & Title

☐ BIOL 2000 Molecules & Cells (fall/spring)

☐ BIOL 2010 Ecology & Evolution (fall/spring)

☐ BIOL 2040 Investigations in Molecular Cell Biology Lab (fall/spring) **NOTE:** Taken after BIOL2000

☐ Category A: Genetics & Genomics

  One from the following:

  - BIOL 3050 Genetics (fall/spring) – 4 cr
  - BIOL 3060 Genetics (summer only)
  - BIOL 3150 Introduction to Genomics – 4 cr

☐ Category B: Physiology & Organismal Biology

  One from the following:

  - BIOL 3030 Introduction to Physiology (fall)
  - BIOL 3210 Plant Biology (not offered in 2021-2022)
  - BIOL 4110 Ornithology (spring)
  - BIOL 4320 Developmental Biology (fall)
  - BIOL 4330 Human Physiology with Lab (spring) – 4 cr
  - BIOL 4450 Behavioral Ecology (not offered in 2021-2022)
  - BIOL 4540 Neuroscience (spring)

☐ One Advanced Experience Course (see the listing on reverse side)

  **NOTE:** Undergraduate Research can be used to satisfy the Advanced Experience requirement or one biology elective only if the student completes two semesters.

Choose Biology courses 3000 level or above to bring the total Biology credits to 33

  **NOTE:** 9 of the 33 credits may be from the approved BA elective list (or from another course preapproved by the department)

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**CO-REQUISITES**

Chemistry

☐ General Chemistry 1 & 2 with Labs (CHEM 1109-1110; 1111-1112)

Math

☐ Calculus 1 (MATH 1100) or equivalent
### 2021-2022 BIOLOGY ELECTIVES

Biology Electives are 3 credits each unless otherwise noted.

#### Fall
- Introduction to Physiology (BIOL 3030)
- Cell Biology (BIOL 3040)
- Genetics (BIOL 3050) — 4 cr
- Experimental Methods in Organismal Biology (BIOL 3140)
- Evolution and Development (BIOL 4050)
- Virology (BIOL 4090)
- Inflammation and Disease (BIOL 4120)
- Introduction to Bioinformatics (BIOL 4200)
- Human Anatomy with Lab (BIOL 4260) — 4 cr
- Developmental Biology (BIOL 4320)
- Vaccination and Immunity (BIOL 4440)
- Principles of Immunology (BIOL 4570)

#### Spring
- Cell Biology (BIOL 3040)
- Genetics (BIOL 3050) — 4 cr
- Microbiology (BIOL 3090)
- Introduction to Genomics (BIOL 3150) — 4 cr
- Deep Sea Biology (BIOL 4030)
- Ornithology (BIOL 4110)
- Population Genetics (BIOL 4250)
- Medical Biochemistry and Metabolism (BIOL 4290)
- Human Physiology with Lab (BIOL 4340) — 4 cr
- Biological Chemistry (BIOL 4350)
- Molecular Biology (BIOL 4400)
- Molecular Basis of Disease (BIOL 4460)
- Cancer Biology (BIOL 4510)
- Neuroscience (BIOL 4540)

### ADVANCED EXPERIENCE COURSES

#### Fall
- **Seminars (3 credits)**
  - Nobel Winning Res in Medicine or Physio (BIOL 5010) — 2 cr
  - Topics in Developmental Biology (BIOL 5040) - 2 cr
  - Emerging Therapeutics (BIOL 5075) — 2 cr
  - Topics in Advanced Cell Biology (BIOL 5095)
  - Environmental Disruptors of Development (BIOL 5130)
  - Exploring the Eukaryotic Chromosome (BIOL 5190) — 2 cr
  - Cancer as a Metabolic Disease (BIOL 5420)

- **Advanced Labs (3 credits)**
  - Research in Molecular Cell Biology (BIOL 4220)
  - Research in Evolutionary Genomics (BIOL 4802)
  - Research in Molecular Biology Lab (BIOL 4830)
  - Investigations in Cellular Re-Programming (BIOL 4890)
  - Advanced Lab in Cell Imaging (BIOL 5450) — 2 cr

#### Spring
- **Seminars (3 credits)**
  - Nobel Winning Res in Medicine or Physio (BIOL 5010) — 2 cr
  - Recombinant DNA Technology (BIOL 5060)
  - Microbial Community Ecology (BIOL 5071) — 2 cr
  - Emerging Therapeutics (BIOL 5075) — 2 cr
  - Microbiome and Human Disease (BIOL 5100) — 2 cr
  - Vaccine Development & Public Health (BIOL 5150)
  - Immunity & Infectious Disease (BIOL 5230)
  - Topics in Biomechanics (BIOL 5380)
  - Cancer as a Metabolic Disease (BIOL 5420)
  - Genomics and Personalized Medicine (BIOL 5430)
  - Synthetic Biology (BIOL 5440)

- **Advanced Labs (3 credits)**
  - Research in Molecular Biology Lab (BIOL 4830)
  - Research in Molecular Genetics Lab (BIOL 4870)
  - Advanced Lab in Cell Imaging (BIOL 5450) — 2 credits

### SPRING 2022 BIOLOGY ELECTIVES OFFERED IN OTHER DEPARTMENTS

- Biochemistry 2 (CHEM 4462), Drug Discovery & Medicinal Chemistry (CHEM 5510), Chemical Biology (CHEM 5567), Agroecology (EESC 3310)

### Pre-Approved Biology BA Electives

*most courses listed below are not offered by the Biology department and offerings may change without notice*

- Microbiology for the Health Professions (BIOL 2200)
- Microbiology for the Health Professions Lab (BIOL 2201)
- Environmental Economics (ECON 2278)
- Paleobiology (EESC 3330)
- Environmental Law & Policy (ENVS 2256)
- Sustainable Agriculture (ENVS 3315)
- Human-Wildlife Conflicts and Co-existence (ENVS 3365)
- Animals (HIST 4222)
- Science and Religion in American History (HIST 4891)
- Metaphysics (PHIL 5529)
- Philosophy of Science (PHIL 5593)
- Abnormal Psychology (PSYC 2234)
- Behavioral Neuroscience (PSYC 2285)
- Understanding Autism Spectrum Disorder (PSYC 3339)
- Cognitive Neuroscience: Exploring Mind & Brain (PSYC 3371)
- Developmental Neuroscience (PSYC 3376)
- Neurobiology of Eating & Eating Disorders (PSYC 3388)
- HIV, AIDS & Ethics (THEO 5498)